Practice: 356 - Dike

Scenario: #1 - Material haul Less Than 1 mile

Scenario Description:

Construction of a barrier, constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. Cost Estimate is based on an earthen dike assumed 1000 lineal feet, Class II (6 ft. in height, 8 ft. top width, 2H:1V side slopes) with a material haul distance of less than 1 mile. Associated practices include, but are not limited to: PS327 Conservation Cover, PS656 Constructed Wetland, PS342 Critical Area Planting, PS378 Ponds, PS382 Fence, PS464 Irrigation Land Levelling, PS500 Obstruction Removal, PS528 Prescribed Grazing, PS587 Structure for Water Control, PS620 Underground Outlet, PS645 Upland Wildlife Management, PS658 Wetland Creation, PS659 Wetland Enhancement, PS657 Wetland Restoration, PS644 Wetland Wildlife Habitat Management.

Before Situation:

Site is subject to flooding or indundation which poses a potential hazard to public safety, damage to land or property. Site may also require control of water level for purposes connected with crop production; fish and wildlife managment; or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance. Material haul < 1 mile.

After Situation:

Water level controlled by a stable earthen structure. Potential hazard to public safety, land or property mitigated; environmental benefit provided.

Scenario Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 4,500

Scenario Cost: $17,461.53 **Scenario Cost/Unit:** $3.88

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$3.54	4500	$15,930.00
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$227.64	1	$227.64
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$434.63	3	$1,303.89

Practice: 356 - Dike

Scenario: #2 - Material haul Greater Than 1 mile

Scenario Description:

Construction of a barrier, constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. Cost Estimate is based on an earthen dike assumed 1000 lineal feet, Class II (6 ft. in height, 8 ft. top width, 2H:1V side slopes) with a material haul distance of greater than 1 mile. Associated practices include, but are not limited to: PS327 Conservation Cover, PS656 Constructed Wetland, PS342 Critical Area Planting, PS378 Ponds, PS382 Fence, PS464 Irrigation Land Levelling, PS500 Obstruction Removal, PS528 Prescribed Grazing, PS587 Structure for Water Control, PS620 Underground Outlet, PS645 Upland Wildlife Management, PS658 Wetland Creation, PS659 Wetland Enhancement, PS657 Wetland Restoration, PS644 Wetland Wildlife Habitat Management.

Before Situation:

Site is subject to flooding or indundation which poses a potential hazard to public safety, damage to land or property. Site may also require control of water level for purposes connected with crop production; fish and wildlife managment; or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance. Material haul > 1 mile.

After Situation:

Water level controlled by a stable earthen structure. Potential hazard to public safety, land or property mitigated; environmental benefit provided.

Scenario Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 4,500

Scenario Cost: $20,071.53 **Scenario Cost/Unit:** $4.46

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$3.54	4500	$15,930.00
Hauling, bulk, highway truck	1615	Hauling of bulk earthfill, rockfill, waste or debris. One-way travel distance using fully loaded highway dump trucks (typically 16 CY or 20 TN capacity). Includes equipment and labor for truck only. Does not include cost for loading truck.	Cubic Yard Mile	$0.29	9000	$2,610.00
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$227.64	1	$227.64
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$434.63	3	$1,303.89

Practice: 356 - Dike

Scenario: #3 - Shallow Water Area

Scenario Description:

A barrier constructed of an earthen embankment, to control water level. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. Cost estimate is based on a 2,640 foot long 3 ft high earthen dike (Class III) with a top width of 10 ft and having 3H:1V side slopes used to create a wetland or other shallow water area. Associated practices include, but are not limited to: PS327 Conservation Cover, PS656 Constructed Wetland, PS 342 Critical Area Planting, (378) Ponds, (382) Fence, (464) Irrigation Land Levelling, (500) Obstruction Removal, (528) Prescribed Grazing, (587) Structure for Water Control, (620) Underground Outlet, (645) Upland Wildlife Management, (658) Wetland Creation, (659) Wetland Enhancement, (657) Wetland Restoration, (644) Wetland Wildlife Habitat Management.

Before Situation:

Site requires control of water level for purposes connected with crop production; fish and wildlife managment; or wetland maintenance, improvement, restoration, or construction. An adequate quantity of soil suitable for constructing an earthen dike is available at an economical haul distance.

After Situation:

A 2,640 foot long Class III dike is constructed with an average height of 3 feet, top width of 10 feet, and 3:1 side slopes. The water level is controlled by a stable earthen structure, and environmental benefit provided.

Scenario Feature Measure: Volume of Earthfill (including volume of soil berm, as needed)

Scenario Unit: Cubic Yard

Scenario Typical Size: 5,573

Scenario Cost: $21,259.95 **Scenario Cost/Unit:** $3.81

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Earthfill, Roller Compacted	49	Earthfill, roller or machine compacted, includes equipment and labor	Cubic yard	$3.54	5573	$19,728.42
Mobilization						
Mobilization, medium equipment	1139	Equipment with 70-150 HP or typical weights between 14,000 and 30,000 pounds.	Each	$227.64	1	$227.64
Mobilization, large equipment	1140	Equipment >150HP or typical weights greater than 30,000 pounds or loads requiring over width or over length permits.	Each	$434.63	3	$1,303.89